

0590  
0702

#5 OIPE

## RAW SEQUENCE LISTING

DATE: 07/09/2002

PATENT APPLICATION: US/10/074,328

TIME: 15:03:42

Input Set : N:\CrF3\RULE60\10074328.raw

Output Set: N:\CRF3\07092002\J074328.raw

## SEQUENCE LISTING

ENTERED

## 3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: BROW, MARY ANN D.  
 6 GROTELUESCHEN HALL, JEFF S.  
 7 LYAMICHEV, VICTOR  
 8 OLIVE, DAVID M.  
 9 PRUDENT, JAMES R.

11 (ii) TITLE OF INVENTION: DETECTION OF NUCLEIC ACID SEQUENCES BY  
 12 INVADER-DIRECTED CLEAVAGE

14 (iii) NUMBER OF SEQUENCES: 48

16 (iv) CORRESPONDENCE ADDRESS:

17 (A) ADDRESSEE: MEDLEN & CARROLL  
 18 (B) STREET: 220 MONTGOMERY STREET, SUITE 2200  
 19 (C) CITY: SAN FRANCISCO  
 20 (D) STATE: CALIFORNIA  
 21 (E) COUNTRY: UNITED STATES OF AMERICA  
 22 (F) ZIP: 94104

24 (v) COMPUTER READABLE FORM:

25 (A) MEDIUM TYPE: Floppy disk  
 26 (B) COMPUTER: IBM PC compatible  
 27 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
 28 (D) SOFTWARE: PatentIn Release #1.0, Version #1.25

30 (vi) CURRENT APPLICATION DATA:

C--> 31 (A) APPLICATION NUMBER: US/10/074,328  
 C--> 32 (B) FILING DATE: 12-Feb-2002  
 33 (C) CLASSIFICATION:

36 (vii) PRIOR APPLICATION DATA:

37 (A) APPLICATION NUMBER: US/08/599,491  
 38 (B) FILING DATE: 23-JAN-1996

40 (viii) ATTORNEY/AGENT INFORMATION:

41 (A) NAME: INGOLIA, DIANE E.  
 42 (B) REGISTRATION NUMBER: P-40,027  
 43 (C) REFERENCE/DOCKET NUMBER: FORS-01802

45 (ix) TELECOMMUNICATION INFORMATION:

46 (A) TELEPHONE: (415) 705-8410  
 47 (B) TELEFAX: (415) 397-8338

50 (2) INFORMATION FOR SEQ ID NO: 1:

52 (i) SEQUENCE CHARACTERISTICS:

53 (A) LENGTH: 2506 base pairs  
 54 (B) TYPE: nucleic acid  
 55 (C) STRANDEDNESS: double  
 56 (D) TOPOLOGY: linear

58 (ii) MOLECULE TYPE: DNA (genomic)

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62 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

64	ATGAGGGGGA	TGCTGCCCCT	CTTTGAGCCC	AAGGGCCGGG	TCCTCCTGGT	GGACGGCCAC	60
66	CACCTGGCCT	ACCGCACCTT	CCACGCCCTG	AAGGGCCTCA	CCACCAGCCG	GGGGGAGCCG	120
68	GTGCAGGCGG	TCTACGGCTT	CGCCAAGAGC	CTCCTCAAGG	CCCTCAAGGA	GGACGGGGAC	180
70	GCGGTGATCG	TGGTCTTTGA	CGCCAAGGCC	CCCTCCTTCC	GCCACGAGGC	CTACGGGGGG	240
72	TACAAGGCGG	GCCGGGCCCC	CACGCCGGAG	GACTTTCCCC	GGCAACTCGC	CCTCATCAAG	300
74	GAGCTGGTGG	ACCTCCTGGG	GCTGGCGCGC	CTCGAGGTCC	CGGGCTACGA	GGCGGACGAC	360
76	GTCCTGGCCA	GCCTGGCCAA	GAAGGCGGAA	AAGGAGGGCT	ACGAGGTCCG	CATCCTCACC	420
78	GCCGACAAAG	ACCTTTACCA	GCTCCTTTCC	GACCGCATCC	ACGTCCTCCA	CCCCGAGGGG	480
80	TACCTCATCA	CCCCGGCCTG	GCTTTGGGAA	AAGTACGGCC	TGAGGCCCGA	CCAGTGGGCC	540
82	GACTACCGGG	CCCTGACCGG	GGACGAGTCC	GACAACCTTC	CCGGGGTCAA	GGGCATCGGG	600
84	GAGAAGACGG	CGAGGAAGCT	TCTGGAGGAG	TGGGGGAGCC	TGGAAGCCCT	CCTCAAGAAC	660
86	CTGGACCGGC	TGAAGCCCGC	CATCCGGGAG	AAGATCCTGG	CCCACATGGA	CGATCTGAAG	720
88	CTCTCCTGGG	ACCTGGCCAA	GGTGCGCACC	GACCTGCCCC	TGGAGGTGGA	CTTCGCCAAA	780
90	AGGCGGGAGC	CCGACCGGGA	GAGGCTTAGG	GCCTTTCTGG	AGAGGCTTGA	GTTTGGCAGC	840
92	CTCCTCCACG	AGTTCGGCCT	TCTGGAAGC	CCCAAGGCC	TGGAGGAGGC	CCCCTGGCCC	900
94	CCGCCGGAAG	GGGCCTTCGT	GGGCTTTGTG	CTTTCCCGCA	AGGAGCCCAT	GTGGGCCGAT	960
96	CTTCTGGCCC	TGGCCGCCGC	CAGGGGGGGC	CGGGTCCACC	GGGCCCCCGA	GCCTTATAAA	1020
98	GCCCTCAGGG	ACCTGAAGGA	GGCGCGGGG	CTTCTCGCCA	AAGACCTGAG	CGTTCTGGCC	1080
100	CTGAGGGAAG	GCCTTGGCCT	CCCGCCCGGC	GACGACCCCA	TGCTCCTCGC	CTACCTCCTG	1140
102	GACCCTTCCA	ACACCAACCC	CGAGGGGGTG	GCCCGGCGCT	ACGGCGGGGA	GTGGACGGAG	1200
104	GAGGCGGGGG	AGCGGGCCGC	CCTTTCCGAG	AGGCTCTTCG	CCAACCTGTG	GGGGAGGCTT	1260
106	GAGGGGGAGG	AGAGGCTCCT	TTGGCTTTAC	CGGGAGGTGG	AGAGGCCCCCT	TTCCGCTGTC	1320
108	CTGGCCACAC	TGGAGGCCAC	GGGGGTGCGC	CTGGACGTGG	CCTATCTCAG	GGCCTTGTC	1380
110	CTGGAGGTGG	CCGAGGAGAT	CGCCCGCCTC	GAGGCCGAGG	TCTTCCGCCT	GGCCGGCCAC	1440
112	CCCTTCAACC	TCAACTCCCG	GGACCAGCTG	GAAAGGGTCC	TCTTTGACGA	GCTAGGGCTT	1500
114	CCCGCCATCG	GCAAGACGGA	GAAGACCGGC	AAGCGCTCCA	CCAGCGCCGC	CGTCCTGGAG	1560
116	GCCCTCCGCG	AGGCCCACCC	CATCGTGGAG	AAGATCCTGC	AGTACCGGGA	GCTACCAAG	1620
118	CTGAAGAGCA	CCTACATTGA	CCCCTTGCCG	GACCTCATCC	ACCCAGGAC	GGCCCGCCTC	1680
120	CACACCCGCT	TCAACCAGAC	GGCCACGGCC	ACGGGCAGGC	TAAGTAGCTC	CGATCCCAAC	1740
122	CTCCAGAACA	TCCCCGTCCG	CACCCCGCTT	GGGCAGAGGA	TCCGCCGGGC	CTTCATCGCC	1800
124	GAGGAGGGGT	GGCTATTGGT	GGCCCTGGAC	TATAGCCAGA	TAGAGCTCAG	GGTGCTGGCC	1860
126	CACCTCTCCG	GCGACGAGAA	CCTGATCCGG	GTCTTCCAGG	AGGGGCGGGA	CATCCACACG	1920
128	GAGACGCCCA	GCTGGATGTT	CGGCGTCCCC	CGGGAGGCCG	TGGACCCCTT	GATGCGCCGG	1980
130	GCGGCCAAGA	CCATCAACTT	CGGGGTCTCT	TACGGCATGT	CGGCCACCG	CCTCTCCCAG	2040
132	GAGCTAGCCA	TCCCTTACGA	GGAGGCCCAG	GCCTTCATTG	AGCGCTACTT	TCAGAGCTTC	2100
134	CCCAAGGTGC	GGGCTGGAT	TGAGAAGACC	CTGGAGGAGG	GCAGGAGGCG	GGGGTACGTG	2160
136	GAGACCCTCT	TCGGCCGCCG	CCGCTACGTG	CCAGACCTAG	AGGCCCGGGT	GAAGAGCGTG	2220
138	CGGGAGGCGG	CCGAGCGCAT	GGCCTTCAAC	ATGCCCGTCC	AGGGCACCGC	CGCCGACCTC	2280
140	ATGAAGCTGG	CTATGGTGAA	GCTCTTCCCC	AGGCTGGAGG	AAATGGGGGC	CAGGATGCTC	2340
142	CTTCAGGTCC	ACGACGAGCT	GGTCTCTGAG	GCCCCAAAAG	AGAGGGCGGA	GGCCGTGGCC	2400
144	CGGCTGGCCA	AGGAGGTCAT	GGAGGGGGTG	TATCCCCTGG	CCGTGCCCCCT	GGAGGTGGAG	2460
146	GTGGGGATAG	GGGAGGACTG	GCTCTCCGCC	AAGGAGTGAT	ACCACC		2506

148 (2) INFORMATION FOR SEQ ID NO: 2:

150 (i) SEQUENCE CHARACTERISTICS:

151 (A) LENGTH: 2496 base pairs

152 (B) TYPE: nucleic acid

153 (C) STRANDEDNESS: double

154 (D) TOPOLOGY: linear

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Input Set : N:\Crf3\RULE60\10074328.raw

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156      (ii) MOLECULE TYPE: DNA (genomic)
160      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
162 ATGGCGATGC TTCCCCTCTT TGAGCCCAAA GGCCGCGTGC TCCTGGTGA CGGCCACCAC      60
164 CTGGCCTACC GCACCTTCTT TGCCCTCAAG GGCCCTACCA CCAGCCGCGG CGAACCCGTT      120
166 CAGGCGGTCT ACGGCTTCGC CAAAAGCCTC CTCAAGGCCC TGAAGGAGGA CGGGGACGTG      180
168 GTGGTGGTGG TCTTTGACGC CAAGGCCCCC TCCTTCCGCC ACGAGGCCTA CGAGGCCTAC      240
170 AAGGCGGGCC GGGCCCCCAC CCCGGAGGAC TTTCCCCGGC AGCTGGCCCT CATCAAGGAG      300
172 TTGGTGGACC TCCTAGGCCT TGTGCGGCTG GAGGTTCCCG GCTTTGAGGC GGACGACGTG      360
174 CTGGCCACCC TGGCCAAGCG GCGGGAAGAG GAGGGGTACG AGGTGCGCAT CCTCACTGCC      420
176 GACCGCGACC TCTACCAGCT CCTTTCGGAG CGCATCGCCA TCCTCCACCC TGAGGGGTAC      480
178 CTGATCACCC CGGCGTGGCT TTACGAGAAG TACGGCCTGC GCCCGGAGCA GTGGGTGGAC      540
180 TACCGGGCCC TGGCGGGGGA CCCCTCGGAT AACATCCCCG GGGTGAAGGG CATCGGGGAG      600
182 AAGACCGCCC AGAGGCTCAT CCGCGAGTGG GGGAGCCTGG AAAACCTCTT CCAGCACCTG      660
184 GACCAGGTGA AGCCCTCCTT GCGGGAGAAG CTCCAGGCGG GCATGGAGGC CCTGGCCCTT      720
186 TCCCGGAAGC TTTCCAGGT GCACACTGAC CTGCCCCTGG AGGTGGACTT CGGGAGGCGC      780
188 CGCACACCCA ACCTGGAGGG TCTGCGGGCT TTTTGGAGC GGTGGAGTT TGAAGCCTC      840
190 CTCCACGAGT TCGGCCTCCT GGAGGGGCCG AAGGCGGCAG AGGAGGCCCC CTGGCCCCCT      900
192 CCGGAAGGGG CTTTTTGGG CTTTTCTTTT TCCCGTCCCG AGCCCATGTG GGCCGAGCTT      960
194 CTGGCCCTGG CTGGGGCGTG GGAGGGGCGC CTCCATCGGG CACAAGACCC CCTTAGGGGC      1020
196 CTGAGGGACC TTAAGGGGTT GCGGGGAATC CTGGCCAAGG ACCTGGCGGT TTTGGCCCTG      1080
198 CGGGAGGGCC TGGACCTCTT CCCAGAGGAC GACCCCATGC TCCTGGCCTA CCTTCTGGAC      1140
200 CCCTCCAACA CCACCCCTGA GGGGGTGGCC CGGCGTTACG GGGGGGAGTG GACGGAGGAT      1200
202 GCGGGGGAGA GGGCCCTCCT GGCCGAGCGC CTCTTCCAGA CCCTAAAGGA GCGCCTTAAG      1260
204 GGAGAAGAAC GCCTGCTTTG GCTTTACGAG GAGGTGGAGA AGCCGCTTTC CCGGGTGTG      1320
206 GCCCGGATGG AGGCCACGGG GGTCCGGCTG GACGTGGCCT ACCTCCAGGC CCTCTCCCTG      1380
208 GAGGTGGAGG CGGAGGTGCG CCAGCTGGAG GAGGAGGTCT TCCGCCTGGC CGGCCACCCC      1440
210 TTCAACCTCA ACTCCGCGA CCAGCTGGAG CGGGTGCTCT TTGACGAGCT GGGCCTGCCT      1500
212 GCCATCGGCA AGACGGAGAA GACGGGGAAG CGCTCCACCA GCGCTGCCGT GCTGGAGGCC      1560
214 CTGCGAGAGG CCCACCCCAT CGTGGACCGC ATCCTGCAGT ACCGGGAGCT CACCAAGCTC      1620
216 AAGAACACCT ACATAGACCC CCTGCCCCGC CTGGTCCACC CCAAGACCGG CCGGCTCCAC      1680
218 ACCCGCTTCA ACCAGACGGC CACCGCCACG GGCAGGCTTT CCAGCTCCGA CCCCACCTG      1740
220 CAGAACATCC CCGTGCGCAC CCCTCTGGGC CAGCGCATCC GCCGAGCCTT CGTGCCGAG      1800
222 GAGGGCTGGG TGCTGGTGGT CTTGGACTAC AGCCAGATTG AGCTTCGGGT CCTGGCCAC      1860
224 CTCTCCGGG ACGAGAACCT GATCCGGGCT TTTCAGGAGG GGAGGGACAT CCACACCCAG      1920
226 ACCGCCAGCT GGATGTTCCG CGTTTCCCCC GAAGGGGTAG ACCCTCTGAT GCGCCGGGCG      1980
228 GCCAAGACCA TCAACTTCGG GGTGCTCTAC GGCATGTCCG CCCACCGCCT CTCCGGGGAG      2040
230 CTTTCCATCC CCTACGAGGA GCGGGTGGCC TTATTGAGC GCTACTTCCA GAGCTACCCC      2100
232 AAGGTGCGGG CCTGGATTGA GGGGACCCTC GAGGAGGGCC GCCGGCGGGG GTATGTGGAG      2160
234 ACCCTCTTCG GCCGCCGGCG CTATGTGCCC GACCTCAACG CCCGGGTGAA GAGCGTGCGC      2220
236 GAGGCGGCGG AGCGCATGGC CTTCAACATG CCGGTCCAGG GCACCGCCGC CGACCTCATG      2280
238 AAGCTGGCCA TGGTGC GGCT TTTCCCCCGG CTTCAGGAAC TGGGGGCGAG GATGCTTTTG      2340
240 CAGGTGCACG ACGAGCTGGT CCTCGAGGCC CCCAAGGACC GGGCGGAGAG GGTAGCCGCT      2400
242 TTGGCCAAGG AGGTCATGGA GGGGGTCTGG CCCCTGCAGG TGCCCTGGA GGTGGAGGTG      2460
244 GGCCTGGGGG AGGACTGGCT CTCCGCCAAG GAGTAG      2496
246 (2) INFORMATION FOR SEQ ID NO: 3:
248      (i) SEQUENCE CHARACTERISTICS:
249          (A) LENGTH: 2504 base pairs
250          (B) TYPE: nucleic acid
251          (C) STRANDEDNESS: double

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## RAW SEQUENCE LISTING

DATE: 07/09/2002

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Input Set : N:\Crif3\RULE60\10074328.raw

Output Set: N:\CRF3\07092002\J074328.raw

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252      (D) TOPOLOGY: linear
254      (ii) MOLECULE TYPE: DNA (genomic)
258      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
260 ATGGAGGCGA TGCTTCCGCT CTTTGAACCC AAAGGCCGGG TCCTCCTGGT GGACGGCCAC      60
262 CACCTGGCCT ACCGCACCTT CTTCGCCCTG AAGGGCCTCA CCACGAGCCG GGGCGAACC      120
264 GTGCAGGCGG TCTACGGCTT CGCCAAGAGC CTCCTCAAGG CCCTGAAGGA GGACGGGTAC      180
266 AAGGCCGTCT TCGTGGTCTT TGACGCCAAG GCCCCCTCCT TCCGCCACGA GGCCTACGAG      240
268 GCCTACAAGG CGGGGAGGGC CCCGACCCCC GAGGACTTCC CCCGGCAGCT CGCCCTCATC      300
270 AAGGAGCTGG TGGACCTCCT GGGGTTTACC CGCCTCGAGG TCCCCGGCTA CGAGGCGGAC      360
272 GACGTTCTCG CCACCCTGGC CAAGAAGGCG GAAAAGGAGG GGTACGAGGT GCGCATCCTC      420
274 ACCGCCGACC GCGACCTCTA CCAACTCGTC TCCGACCGCG TCGCCGTCCT CCACCCCGAG      480
276 GGCCACCTCA TCACCCCGGA GTGGCTTTGG GAGAAGTACG GCCTCAGGCC GGAGCAGTGG      540
278 GTGGACTTCC GCGCCCTCGT GGGGGACCCC TCCGACAACC TCCCCGGGGT CAAGGGCATC      600
280 GGGGAGAAGA CCGCCCTCAA GCTCCTCAAG GAGTGGGGAA GCCTGGA AAA CCTCCTCAAG      660
282 AACCTGGACC GGGTAAAGCC AGAAAACGTC CGGGAGAAGA TCAAGGCCCA CCTGGAAGAC      720
284 CTCAGGCTCT CTTGGAGCT CTCCCGGGTG CGCACCGACC TCCCCCTGGA GGTGGACCTC      780
286 GCCCAGGGGC GGGAGCCCGA CCGGGAGGGG CTTAGGGCCT TCCTGGAGAG GCTGGAGTTC      840
288 GGCAGCCTCC TCCACGAGTT CGGCCTCCTG GAGGCCCCCG CCCCCCTGGA GGAGGCCCCC      900
290 TGGCCCCCGC CGGAAGGGGC CTTCTGTGGC TTCGTCTCTT CCCGCCCGA GCCCATGTGG      960
292 GCGGAGCTTA AAGCCCTGGC CGCCTGCAGG GACGGCCGGG TGCACCGGGC AGCAGACCCC      1020
294 TTGGCGGGGC TAAAGGACCT CAAGGAGGTC CGGGGCCTCC TCGCCAAGGA CCTCGCCGTC      1080
296 TTGGCCTCGA GGGAGGGGCT AGACCTCGTG CCCGGGGACG ACCCCATGCT CCTCGCCTAC      1140
298 CTCCTGGACC CCTCCAACAC CACCCCGAG GGGGTGGCGC GCGCTACGG GGGGGAGTGG      1200
300 ACGGAGGACG CCGCCACCG GGCCCTCCTC TCGGAGAGGC TCCATCGGAA CCTCCTTAAG      1260
302 CGCCTCGAGG GGGAGGAGAA GCTCCTTTGG CTCTACCACG AGGTGGAAAA GCCCCTCTCC      1320
304 CGGGTCCTGG CCCACATGGA GGCCACCGGG GTACGGCTGG ACGTGGCCTA CCTTCAGGCC      1380
306 CTTTCCCTGG AGCTTGCGGA GGAGATCCGC CGCCTCGAGG AGGAGGTCTT CCGCTTGGCG      1440
308 GGCCACCCCT TCAACCTCAA CTCCCGGGAC CAGCTGGAAA GGGTGCTCTT TGACGAGCTT      1500
310 AGGCTTCCCG CTTGGGGGAA GACGCAAAAG ACAGGCAAGC GCTCCACCAG CGCCGCGGTG      1560
312 CTGGAGGCCC TACGGGAGGC CCACCCATC GTGGAGAAGA TCCTCCAGCA CCGGGAGCTC      1620
314 ACCAAGCTCA AGAACACCTA CGTGGACCCC CTCCCAAGCC TCGTCCACCC GAGGACGGGC      1680
316 CGCCTCCACA CCCGCTTCAA CCAGACGGCC ACGGCCACGG GGAGGCTTAG TAGCTCCGAC      1740
318 CCCAACCTGC AGAACATCCC CGTCCGCACC CCCTTGGGCC AGAGGATCCG CCGGGCCTTC      1800
320 GTGGCCGAGG CGGGTTGGGC GTTGGTGGCC CTGGACTATA GCCAGATAGA GCTCCGCGTC      1860
322 CTCGCCACCC TCTCCGGGGA CGAAAACCTG ATCAGGCTCT TCCAGGAGGG GAAGGACATC      1920
324 CACACCCAGA CCGCAAGCTG GATGTTCCGC GTCCCCCGG AGGCCGTGGA CCCCCTGATG      1980
326 CGCCGGGCGG CCAAGACGGT GAACTTCGGC GTCCTCTACG GCATGTCCGC CCATAGGCTC      2040
328 TCCCAGGAGC TTGCCATCCC CTACGAGGAG GCGGTGGCCT TTATAGAGGC TACTTCCAAA      2100
330 GCTTCCCCAA GGTGCGGGCC TGGATAGAAA AGACCCTGGA GGAGGGGAGG AAGCGGGGCT      2160
332 ACGTGGAAAC CCTCTTCGGA AGAAGGCGCT ACGTGCCCGA CCTCAACGCC CGGGTGAAGA      2220
334 GCGTCAGGGA GGCCGCGGAG CGCATGGCCT TCAACATGCC CGTCCAGGGC ACCGCCGCCG      2280
336 ACCTCATGAA GCTCGCCATG GTGAAGCTCT TCCCCCGCCT CCGGGAGATG GGGGCCCGCA      2340
338 TGCTCCTCCA GGTCCACGAC GAGCTCCTCC TGGAGGCCCC CCAAGCGCGG GCCGAGGAGG      2400
340 TGGCGGCTTT GGCCAAGGAG GCCATGGAGA AGGCCTATCC CCTCGCCGTG CCCCTGGAGG      2460
342 TGGAGGTGGG GATGGGGGAG GACTGGCTTT CCGCAAGGG TTAG      2504
344 (2) INFORMATION FOR SEQ ID NO: 4:
346      (i) SEQUENCE CHARACTERISTICS:
347          (A) LENGTH: 832 amino acids
348          (B) TYPE: amino acid

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/074,328

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349      (C) STRANDEDNESS: single
350      (D) TOPOLOGY: linear
352      (ii) MOLECULE TYPE: protein
356      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
358      Met Arg Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu
359      1          5          10          15
361      Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly
362      20          25          30
364      Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala
365      35          40          45
367      Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val
368      50          55          60
370      Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly
371      65          70          75          80
373      Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu
374      85          90          95
376      Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu Glu
377      100         105         110
379      Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys
380      115         120         125
382      Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp
383      130         135         140
385      Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly
386      145         150         155         160
388      Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro
389      165         170         175
391      Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn
392      180         185         190
394      Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu
395      195         200         205
397      Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu
398      210         215         220
400      Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu Lys
401      225         230         235         240
403      Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu Val
404      245         250         255
406      Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala Phe
407      260         265         270
409      Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
410      275         280         285
412      Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
413      290         295         300
415      Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala Asp
416      305         310         315         320
418      Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala Pro
419      325         330         335
421      Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu
422      340         345         350
424      Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/074,328

DATE: 07/09/2002  
TIME: 15:03:43

Input Set : N:\Crf3\RULE60\10074328.raw  
Output Set: N:\CRF3\07092002\J074328.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 4,5,181,182,190,366,617,628,685,714,722,738,784,1022,1029

Seq#:7; N Pos. 1038,1053,1098,1105,1206,1227,1244,1251,1252,1253,1350,1380

Seq#:7; N Pos. 1497,1530,1569,1572,1641,1653,1655,1770,1812,2319,2346,2396

Seq#:8; Xaa Pos.2,63,109,186,205,209,227,228,233,240,243,244,247,260,290

Seq#:8; Xaa Pos.329,336,340,368,414,417,418,431,551,605,773,794,798,823,833

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/074,328

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TIME: 15:03:43

Input Set : N:\Crf3\RULE60\10074328.raw

Output Set: N:\CRF3\07092002\J074328.raw

L:31 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]  
L:32 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]  
L:970 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
L:979 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:48  
L:988 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:96  
L:1003 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:176  
L:1006 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:192  
L:1009 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:208  
L:1012 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:224  
L:1015 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:240  
L:1018 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:256  
L:1024 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:288  
L:1030 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:320  
L:1033 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:336  
L:1036 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:352  
L:1045 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:400  
L:1048 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:416  
L:1072 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:544  
L:1081 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:592  
L:1114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:768  
L:1117 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:784  
L:1123 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:816  
L:1126 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:832